

PROCEEDINGS OF THE ROYAL ENTOMOLOGICAL SOCIETY OF LONDON

SERIES C. JOURNAL OF MEETINGS

VOLUME 14.

No. 5, 1949

ORDINARY MEETING

WEDNESDAY, 1ST JUNE, 1949, at 5.30 p.m.

AGENDA

1. Confirmation of the Proceedings of the Ordinary Meeting held on 4th May, 1949.
2. Recommendations of candidates for Fellowship.
3. Announcement of election of new Fellows.
4. Additions to the Library.

Presented.

Weber, H. *Grundriss der Insektenkunde*. 2nd edition. 8vo. Jena. 1949. [The Author].

FIAT review of German Science, 1939-1946. Biology, Part 2. 8vo. Wiesbaden. 1948. [Board of Trade (German Division) Technical Information and Documents Unit].

In addition separates have been presented by the U.S. Department of Agriculture, Dr. P. P. Calvert, Miss C. Longfield, Mr. W. V. Harris, the American Entomological Society, Mr. J. L. Harrison, the Anti-Locust Research Centre, Prof. F. Silvestri, the Commonwealth Institute of Entomology, the Smithsonian Institution, Mr. D. K. McE. Kevan, Dr. F. L. Vanderplank, Dr. J. T. Salmon, Mr. A. S. Talhouk, Mr. R. B. Freeman, Mr. K. G. V. Smith, Dr. E. A. Cockayne, Dr. Hermann Weber and Mr. H. M. Morris.

5. Admission of Fellows.
6. Papers accepted for publication in the *Transactions*.
7. Exhibits.

Fellows are particularly requested to bring suitable exhibits to the Meeting even though it may not be possible to announce their intention to do so beforehand.

Note.—To avoid congestion in the Library and to enable exhibits to be displayed to greater advantage, a table has been placed in the meeting room for this purpose. Fellows are asked to place their exhibits on this table, with a suitable explanatory note, as soon as possible on the afternoon of the meeting, so that they are available for inspection there before the meeting opens.

8. Communications.

Professor G. C. Varley, M.A., Ph.D.**The parasites of the knapweed gall-fly.**

[ABSTRACT]

The Trypetid fly *Urophora jaceana* Hering is very suitable for a quantitative study of parasitism. The gall-fly larvae remain for months isolated in separate woody cells, and the attacks of both endophagous and ectophagous chalcid parasites can be observed.

Competition between the different chalcids is severe, and many attacks are unsuccessful. The gall-fly larva may survive the attacks of ectophagous parasites, and the hard perispiracular plate of the larva is an adaptation to this end.

The endophagous chalcid, *Eurytoma curta* Walker, causes premature host pupation, and remains inside the hard host puparium, relatively secure against later attacks by ectophagous chalcids.

Ectophagous chalcids lay small groups of eggs on hosts which can support only one parasite larva. In view of the likelihood of an individual larva failing to develop, this is probably adaptive.

The efficiency of parasites as agents of natural control of population balance has been studied. The number of eggs laid by the parasites is limited by low host density. This supports the theory of Nicholson rather than that of W. R. Thompson.

TEA will be served in the Library before the meeting.

A card index of Fellows' addresses arranged on a geographical basis is now available for the use of Fellows in the Society's Rooms. Addresses in Great Britain are grouped under counties: elsewhere under Dominions, Colonies, Foreign States, etc.

ADMISSION OF FELLOWS

Any Fellow who has not been formally admitted to the Society under Chapter XIV, Section 4 of the Bye-laws and attends the meeting on 1st June, 1949, is requested to inform the Secretary before 5.15 p.m. on that date.

PROCEEDINGS OF THE ORDINARY MEETING HELD ON 4TH MAY, 1949.

Dr. V. B. Wigglesworth, F.R.S., President, in the Chair.

Present, 62 Fellows and 13 Visitors.

The minutes of the Ordinary Meeting held on 6th April, 1949, were confirmed and signed by the President.

The names of the following candidates for election were read: For the first time: J. E. H. Blackie, M.A., V. Dirsh, D.Sc., P. G. Fenimore, D. Leston, B. R. Laurence, Soong Min Kong, B.Sc., R. C. H. Sweeney, J. D. Tickle, K. Tod, Prof. R. L. Usinger, B.Sc., Ph.D., and A. R. Waterston.

For the second time: V. C. P. Almy, B. L. J. Byerley, P. C. Forder, H. D. Swain and Fritz K. E. Zumpt, Ph.D.

The Secretary read the names of the following newly elected Fellows of the Society: E. C. Pelham-Clinton, Glandyfi Castle, Machynlleth, Montgomeryshire; F. S. Downing, B.Sc., 72, Woodland Road, Bristol; Abd-El-Fattah Khalifa, B.Sc., Ph.D., Imperial College Field Station, Silwood Park, Sunninghill, Nr. Ascot, Berks.; N. W. Moore, B.A., Hancox, Whatlington, Battle, Sussex; A. de Porochin, 24, Derby Road, Heaton Moor, Stockport, Cheshire; J. R. T. Short, B.Sc., Jesus College, Oxford; W. J. Stower, B.Sc., 14, Devonshire Gdns., Chiswick, W.4; A. W. Vaughan, M.R.C.V.S., Government Veterinary Surgeon, St. Kitts, British West Indies.

Thanks were voted to donors of gifts to the Library since the last meeting.

Mr. J. W. L. Beament, Mr. Dennis Smith and Mr. J. T. Wattison signed the Obligation Book and were admitted Fellows of the Society.

Communications were made by Dr. F. I. van Emden, Dr. J. W. L. Beament and Professor G. D. Hale Carpenter, abstracts of which appeared on page 14.

In addition, Dr. C. B. Williams made the following communication regarding the use of tetra-chlor-ethane as a killing agent for insects:

"In a description of the Rothamsted Light Trap for insects (1948, *Proc. R. ent. Soc. Lond.* **23**: 80-85), I recommended the use of tetra-chlor-ethane as a killing agent. We had used this for many years successfully and without any trouble, and, as mentioned in the article, it was on sale before the war at any horticultural stores for use as a fumigant in greenhouses.

"My attention has since been drawn, by Mr. P. B. M. Allan, to the fact that under certain conditions tetra-chlor-ethane may be an accumulative poison, and that continual small doses have an injurious effect on the liver.

"Dr. Keith Simpson, in a recent book on Forensic Medicine (1947, p. 321) refers to the dangers of its use, during the first world war, as a solvent for 'dope' on aeroplane fabric; and states that there were a number of cases of 'toxic jaundice,' and several deaths before it was stopped. The men affected had, however, been working for many hours a day in an atmosphere thick with vapour.

"I wrote to Dr. Simpson explaining the conditions under which it is used in our traps. The killing bottles remain out of doors in the traps, and the catch is transferred to boxes and then brought indoors for examination. Dr. Simpson replied 'I have no doubt whatever that the use of tetra-chlor-ethane as a killing agent in the way you describe for moth-trap catches, or for corked killing bottles, cannot have the slightest danger. Indeed, the Tring curator used such a trap at my cottage in the hills adjacent for some years without accident, even to my boy who has 'nosed' well within range. . . . I am sure you need have no anxiety on the subject.'

"Dr. Simpson's reply is reassuring, but at the same time it is obvious that care should be exercised, that the materials are best kept out of doors, and that 'sniffing' should be discouraged.

"We used carbon-tetra-chloride, which according to Dr. Simpson is much less toxic to man, for some years but found that it killed the insects more slowly, with the result that they were likely to be damaged by rubbing.

"We propose to continue to use tetra-chlor-ethane for the present, but will take all precautions. Information about the use of other killing agents would be valuable."

Mr. H. Oldroyd exhibited an Asilid (*Andrenosoma albopilosum* Villeneuve) which was only known to occur on one small beach in the island of Corsica. It was abundant there in August, 1938, when the specimens and photographs shown were taken. He said that there were probably other localities, equally restricted, in the Mediterranean, but none had been recorded. This, and the fly exhibited by Dr. van Emden, showed how quite large and conspicuous insects could flourish in well collected areas, and yet be overlooked.

Professor G. C. Varley exhibited an uncommon scale insect (*Kermes quercus* (L.)) taken from the upper twigs of an oak tree at Wytham Wood, Berks., during a search for eggs of the winter moth. He said that spherical eggs were found in groups of two or three in crevices in the twigs, and in March they contained nymphs about to hatch. Traces of white waxy material adhered to the egg shells. The twigs were placed in water and kept indoors, as a result of which full-grown scales appeared a month or so before they would have been ready in the field. The full-grown scale was buff with dark brown markings, almost spherical, the legs and antennae being vestigial. The specimens shown were dripping with honey-dew. He mentioned that these scales have seldom been recorded, in spite of the fact that they are much larger than most species.

Dr. O. W. Richards said that, while Professor Varley had found the topmost branches far more heavily infested, he himself had seen the insect in abundance on the lower trunks of oaks on Wimbledon Common.

Mr. R. B. Freeman exhibited a calcareous tube from Cape St. Vincent, Portugal, in April, 1949, and invited suggestions as to what had made it.

A photograph of similar tubes showed them standing out, possibly owing to erosion, up to a height of about eight inches on a sandy plateau on the top of limestone cliffs. Other tubes had their openings flush with the surface and were more than a foot long. The only plant cover observed was *Psamma* and *Mesembryanthemum*. A Cicada, an Ant and a Fulgorid were suggested as possibly responsible for the tubes.

The President exhibited living *Calotermes flavicollis* F. The wood infested by the termites was resting on successive layers of sand, cotton-wool and glass-wool which could be moistened as required through a hole at the lower end of the tube. The method was that used by Professor P. P. Grassé. Fifty nymphs were introduced into each tube and subsequently differentiated into soldiers, winged adults and supplementary sexual forms from which eggs were obtained.

In reply to an enquiry from Professor Varley, Dr. Wigglesworth said that the cultures were kept half at room temperature and half at 25° C.

Living protozoa from the rectal pouch of *Calotermes* were also shown.

N. D. RILEY, *Honorary Secretary.*

The next meeting will be held on 6th July, at 5.30 p.m.